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| 09/986,721   | 11/09/2001  | Naoki Kubo           | 0378-0385P          | 5854             |
| 2292 7590 06/24/2008<br>BIRCH STEWART KOLASCH & BIRCH<br>PO BOX 747<br>FALLS CHURCH, VA 22040-0747 |             |                      |                     |                  |
| EXAMINER   |             |                      |                     |                  |
| ROSARIO, DENNIS  |             |                      |                     |                  |
| ART UNIT   |             | PAPER NUMBER         |                     |                  |
| 2624   |             |                      |                     |                  |
| NOTIFICATION DATE  |             | DELIVERY MODE        |                     |                  |
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

# Office Action Summary

**Application No.**

09/986,721

**Applicant(s)**

KUBO, NAOKI

**Examiner**

Dennis Rosario

**Art Unit**

2624

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 April 2008.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-16 is/are pending in the application.  
4a) Of the above claim(s) 7-9 and 14 is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-6, 10-13, 15 and 16 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 09 November 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO/SB/C)  
Paper No(s)/Mail Date \_\_\_\_\_  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Response to Amendment***

1. The amendment was received on 4/21/08. Claims 1-6,10-13,15 and 16 are pending.

***Response to Arguments***

2. Applicant's arguments filed 4/21/08 have been fully considered but they are not persuasive.
3. 102 rejection:

Applicants state that Johnson does not evince that there is a file generated that includes 238 and one of the ID #s with that ID # identifying the Residue as being calculated using the first image data and the inversely converted second image data.

The examiner respectfully disagrees since Johnson does evince that there is a file generated (as shown in fig. 11, num. 160) that includes 238 and one of the ID #s with that ID # identifying the Residue (since the ID and Residue are positively matched as discussed in col. 12, lines 15-19) as being calculated (since a calculation formula in col. 15, lines 5-8 is a prerequisite to obtain the positive match as discussed in col. 14, line 52 to col. 16, line 10; thus, the positive match is understood as including the Residue that was calculated upon using said formula to obtain the positive match) using the first image data and the inversely converted second image data (which is represented by said Residue that is calculated upon by said formula).

Applicants state that Johnson's decompression is clearly different from storing a parameter identifying the difference data as being calculated using the first image data and the inversely converted second image data.

The examiner respectfully disagrees since Johnson teaches storing a parameter (corresponding to fig. 11, num. 134 that stores a parameter ID# as shown in fig. 11) identifying the difference data (fig. 11:RESIDUAL) as being calculated (since a positive match of said residual with ID# represent that said residual was calculated via said formula) using the first image data and the inversely converted second image data (which is said residual).

103 rejection:

Applicants state that Yi does not teach claim 1, lines 6-8.

Note that the examiner did not use Yi to teach this feature in the office action of 1/31/08 and instead relied on Johnson to teach this feature. Thus, this argument is moot.

Art Unit: 2624

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-5 and 10-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Johnson (US Patent 5,892,847 A).

Regarding claim 1, Johnson that discloses a method of processing image data comprising the steps of:

a) converting (via fig. 34, num. 1004) first image data (fig. 34,num. 1002: IMAGE X) having a first number of bits to second image data (represented in fig. 34 as "Y' ") having a second number of bits, less than the first number of bits (see paragraph 2,above);

b) inversely converting (fig. 34,1005) the second image data (said Y') having the second number of bits to thereby output inversely converted second image data (represented in fig. 34 as "X' ") having the first number of bits;

c) calculating a difference (via fig. 34, num. 1010) between the information (represented as a "+" sign upon the input of num. 1010) represented by each of the bits of the first image data and the information (said X') represented by each of the bits of the inversely converted second image data and outputting (upon the output of fig. 34,num. 1010) the difference as first difference data (as shown in fig. 34 as num. 1012); and

d) generating a file (upon the input of fig. 34,num. 1006 corresponding to fig. 11,numerals 214 and 160) including the first difference data (fig. 34, num. 1012 shown twice which corresponds to fig. 11, numerals 238 and 240) and a first parameter (fig. 11: ID #), the first parameter identifying (via said ID # or identification number) the first difference data (corresponding to either of said 238 or 240 via a matching procedure that has an associated ID #) as being calculated using the first image data and the inversely converted second image data (since the ID# is a compact way of representing difference data), wherein each bit of image data represents a quantizing level of image data (for the quantizer AVQ in fig. 11,num. 134).

Regarding claim 2 see fig. 1,numerals 104 and 106.

Regarding claim 3, Johnson discloses the method in accordance with claim 1, wherein the first image data (the output of fig. 9,num. 198) can be reproduced (as shown in fig. 34,num. 1003) by adding (via fig. 34,num. 1007) the first difference data (fig. 10,num. 212 and represented in fig. 34 as num. 1012) to the inversely converted second image data (the output of fig. 34,num. 1008).

Regarding claim 4, Johnson discloses the method in accordance with claim 1, wherein said step of converting (fig. 9, unlabeled box between numerals 202 and 200) comprises:

- a) the sub-step of linearly converting ("linearly quantizing" in col. 28, line 47) the first number of bits of the first image data to the second number of bits, and
- b) said step of inversely converting comprises:
  - b1) the sub-step of linearly, inversely converting ("linear dequantization" in col. 28, lines 66,67) the second number of bits of the second image data to the first number of bits.

Regarding claim 5, Johnson discloses the method in accordance with claim 1, wherein said step of converting (via fig. 9, numerals 200,198 and unlabeled box between numerals 202 and 200) comprises:

a) the sub-step of nonlinearly converting (via fig. 9,num. 198 transforms "each 8 X 8...block" in col. 11, line 49 where the transformation of a 8 X 8 block is interpreted as a non-linear transformation. Since fig. 9,num. 198 transforms a 2-dimensional image and not a 1-dimensional image.) the first number of bits (fig. 9,num. 200) of the first image data (fig. 9,num. 190) to the second number of bits, and

said step of inversely converting (fig. 10, numerals 209 and 210) comprise:

b) the sub-step of nonlinearly, inversely converting (fig. 10,num. 210 performs the same nonlinear transformation for the same reasons as in claim 5 a), above) the second number of bits (fig. 10,num. 254) of the second image data (fig. 10,num. 208) to the first number of bits.

Claims 10,11 and 12 are rejected the same as claims 1,4 and 5. Thus, argument similar to that presented above for claims 1,4 and 5 of a method is equally applicable to claims 10,11 and 12,respectively, of an apparatus.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 6,13,15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson (US Patent 5,892,847) in view of Yi (US Patent 6,778,187 B1).

Regarding claim 6, claim 6 is rejected the same as claim 1, above, except for the additional limitations corresponding to claim 6, lines 16-24 which are not taught in Johnson. However, Johnson teaches that spatial images or time domain images are "binary" in col. 2, line 16 valued.

Yi teaches such binary valued images as indicated in column 8, lines 5-10 and claim 6, lines 16-24 of

a) converting comprises:

e1) the sub-step of reducing the first number of bits (to obtain a "bit-length reduced value of...b1 1101" in col. 6, lines 66,67) of the first image data (represented as "b1110 1011" in col. 6, line 57) beginning with a least significant bit (for a "right shift operator" in col. 6, lines 60,61) and continuing (right shifting) in sequence from the least significant bit towards higher order bits until the number of bits of the first image data becomes equal (as indicated by said b1 1101 that is five bits which is the same as the narrow range image data of said 5) to the second number of bits of the second image data, and

e2) inversely converting comprises:

e21) the sub-step of adding ZERO bits ("appending two 0 bits" in col. 8, line 33) to the least significant bit of the second image data (said b1 1101) until the number(eight) of bits of the second image data becomes equal (as shown by "b1110 1100" in col. 8, line 34 and said "b1110 1011" in col. 6, line 57) to the first number (eight) of bits of the first image data (represented as "b1110 1011" in col. 6, line 57).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify Johnsons spatial or time domain images that are binary valued with Yi's binary valued images, because Yi's teaching of binary valued images "reduce the memory and bandwidth requirements...without unduly sacrificing image quality." in col. 1, line 67 to col. 2, line 2.

Claim 13 is rejected the same as claim 6. Thus, argument similar to that presented above for claim 6 is equally applicable to claim 13.

Regarding claim 15, Yi of the combination teaches the method in accordance with claim 6, further comprising:

- a) the step of recording the file (as indicated in fig. 2:STORE).

Regarding claim 16, Yi of the combination teaches the method in accordance with claim 6, wherein the broad-range first image data (SOD) can be reproduced by adding (as indicated by the plus sign in fig. 3:S331) the first difference data (said difference) to the inversely converted second image data (ROD).

### ***Conclusion***

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dennis Rosario whose telephone number is (571) 272-7397. The examiner can normally be reached on 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Bella can be reached on (571) 272-7778. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Dennis Rosario/  
Examiner, Art Unit 2624

/Matthew C Bella/  
Supervisory Patent Examiner, Art  
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